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Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
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IP-Enabled Services	)	WC Docket No. 04-36
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TABLE OF CONTENTS

INTRODUCTION AND SUMMARY

This is the rare proceeding in which the realities can match the hype – IP-enabled services will generate enormous public benefits in an appropriate regulatory environment. Existing voice-over-Internet protocol ("VoIP") services already offer consumers capabilities that far exceed those of traditional telephone services. VoIP services can provide unprecedented wireline mobility, allowing the consumer to use the service from any location with a high speed internet access connection. AT&T's consumer offer already includes a host of new advanced features, including advanced call forwarding features and "do not disturb" options that enable consumers to program the service so that the phone answers to their needs instead of the other way around. These benefits will only increase as device manufacturers, network owners, service providers and applications developers take full advantage of the ability to integrate voice, data, and advanced computer capabilities.

The IP environment will also allow voice services to be provided much more efficiently. It is well established that IP technology allows for more efficient routing of calls than circuit-switching. And so long as all VoIP providers have equal access to last mile broadband transport networks, competition from multiple VoIP providers will create a "virtuous cycle in which competition begets innovation, which in turn begets more competition." *Notice* ¶ 22. Indeed, a regulatory regime that encourages the development and deployment of VoIP and other IP-enabled services is among the most powerful tools the Commission possesses to stimulate broadband deployment.

VoIP also has the potential finally to eliminate – at least at the retail level – the local telephone monopolies that incumbent LECs have enjoyed for over a century. Current VoIP offerings allow customers that have a broadband connection to place unlimited calls anywhere in the country for a single low price. And that is why, as the Chairman recently stated, the

incumbent LECs might well be "terrified" of VoIP. *Powell Says FCC Is Devising Ways To Deal With 15% Problem*, Communications Daily (May 5, 2004) ("If you're a big incumbent and you sort of enjoy the competitive advantages of being the owner of that kind of service system, you, in my opinion, ought to be terrified [of VoIP]").

But these benefits are by no means certain. Instead, as the *Notice* recognizes, important decisions need to be made – and made now – about what legacy economic and social regulations should be imposed on IP-enabled services. The *Notice* raises many VoIP specific questions, but opportunities for broader reform should not be ignored. Legacy regulatory schemes are, in such key respects as universal service and intercarrier compensation, irreversibly broken and, indeed, no longer make sense even in the context of the traditional circuit-switched wireline telephone services for which they were developed. Prompt Commission attention to these fundamental flaws in existing regulation is urgently needed, and the Commission should take particular care to ensure that IP-enabled services are not burdened with these flawed legacy regulations in the period before reform is completed. In other respects, the transition to an IP-enabled communications world will require heightened Commission scrutiny, particularly at the network level, to protect the open environment that must be preserved if VoIP and other IP-enabled services are to reach their full potential in a truly competitive environment. In moving forward on these critical issues, three basic principles should guide the Commission's inquiry.

First, the "particular statutory classifications" of IP-enabled voice services, while an important step in the Commission's analysis, should not "lead inexorably to any particular regulatory treatment." *Notice* ¶ 43. The Commission must recognize that a service may be classified as an "information" or "telecommunications" service for reasons that simply have no relevance to the underlying purposes of whether a particular set of regulations should apply to

that service. The Commission's ultimate goal should thus be to determine whether application of legacy regulation to an IP-enabled service serves valid economic and public policy goals that do not outweigh the potential burdens of the regulation. The alternative – mechanically linking statutory classifications and particular outcomes – is simply unworkable in a rapidly evolving nascent industry and could deter logical transformations.

Although certain "telecommunications service" and "information service" distinctions are built into the Communications Act itself, Congress has given the Commission broad authority to ensure that the Commission's regulations of IP-enabled services are based on the relevant economic, technical and policy considerations rather than definitional boundaries. For example, no provision of the Communications Act requires interexchange "telecommunications service" traffic to pay access charges; instead; such charges are today imposed only by the Commission's legacy access charge rules to the extent that those rules were "grandfathered" by section 251(g) of the Communications Act. Thus, to the extent that a particular IP-enabled service might otherwise be subject to access charges by virtue of a telecommunications service classification, the Commission has substantial flexibility to expand the existing ESP exemption (or create a new one) to cover that service. More broadly, sections 251(b)(5) and 251(g) expressly contemplate that the Commission will replace its access charge regime with a rational intercarrier compensation regime in which *all* traffic is terminated on a bill and keep or other cost-based approach. *See* 47 U.S.C. §§ 251(g), 251(b)(5), 252(d)(2). With regard to public safety and disability access, the Commission can provide reasonable transition periods in recognition of the fact that technologies and operational arrangements that will be necessary for IP-enabled services to comply with legacy requirements have not yet been developed or perfected. *See, e.g.*,

47 U.S.C. § 255(d) (providing that disability access is to be provided only to the extent that it is "readily achievable").

Second, decisions about the appropriate regulatory treatment of IP-enabled services and facilities are not something that should – or, indeed, rationally could – be attempted categorically or in the abstract. The *Notice* encompasses a wide range of regulations, services and facilities. Whether or not a particular legacy regulation should apply must turn on a reasoned assessment of (i) the purpose and the basis for the regulation and (ii) the potential costs of imposing that regulation (or failing to apply that regulation).

Thus, as explained below, the Commission must be careful to distinguish between those regulations that apply to the "applications layer" – *i.e.*, retail IP-enabled services – and those that apply to the "network layer" – *i.e.*, the broadband transport networks that are required by both users and providers of retail IP-enabled services and applications. Although the preconditions for monopoly at the applications layer might be generally absent, these services – like traditional voice and data service – require access to last-mile transport facilities for which there is generally substantial concentration of ownership. *Notice* ¶ 5 ("The Commission must always be alert and ready to act against anticompetitive risks and discriminatory provisioning by dominant firms that result in consumer harms"). Until that concentration is dissipated, regulation of the facilities layer – regardless of the presence or absence of an IP label – will remain necessary to protect consumers and competition. Among other things, the Commission must ensure that the Internet remains open and that consumers are able to obtain access to the VoIP and other IP-enabled services, applications and devices from the full range of providers, without interference from the entities that currently control last-mile broadband transmission services.

Third, the Commission should strive "to limit[] regulatory uncertainty and unnecessary or unduly burdensome regulatory costs." *ILEC Wireline Classification NPRM* ¶ 5. In categorizing IP-enabled services for regulatory purposes, the Commission should recognize that these services are at an early stage of development and rely on novel and ever-changing technologies. "Regulatory uncertainty and delay can function as entry barriers in and of themselves, limiting investment and impeding deployment of new services."[1] Thus, it is not enough for the Commission to announce broad "principles" in this proceeding; the Commission should strive to apply promptly those principles with specificity to existing IP-enabled services and determine precisely the extent to which existing legacy regulation should, or should not, apply to these services.

The remainder of AT&T's comments apply these basic principles to the specific issues raised in the *Notice*. In Part I, AT&T discusses its own VoIP services and technologies as concrete examples of the extraordinary potential of IP-enabled services. AT&T has invested heavily in IP technology and now offers innovative VoIP services to both residential and enterprise customers that allow customers to make and receive high quality voice calls either exclusively in IP format or to send calls to and receive calls from customers connected to the PSTN. Although these VoIP services deliver capabilities well beyond those provided by traditional telephone services, AT&T continues to invest heavily in network facilities and technologies to expand the features and functionalities of these services and fully leverage the potential of IP technology.

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[1] Remarks by Commissioner Kevin J. Martin, *At the Crossroads*, 20th Annual PLI/FCBA Telecom Conference, Washington D.C. (Dec. 12, 2002). *See also* First Report and Order and Further Notice of Proposed Rulemaking, *Amendment of the Commission's Space Station Licensing Rules and Policies*, 18 FCC Rcd. 10760, ¶ 45 (2003) ("clearly defined" rules "reduces regulatory uncertainty, and so encourages investment").

In Part II, AT&T explains why the Commission generally should not apply legacy economic regulation to the IP-enabled service "applications layer." So long as regulation adequately protects against abuse of market power in the "network layer" – *i.e.*, the broadband network facilities through which consumers access Internet applications – the preconditions for market power in the applications layer are likely to be absent (at least with respect to providers unaffiliated with dominant network owners) and market competition should ensure that consumers obtain IP-enabled services at just, reasonable, and nondiscriminatory terms. In this regard, there is little tension between the regulatory classification that would apply to most VoIP services and the presumptive regulatory structure that would bring. Most VoIP services, including AT&T's VoIP offerings, are undeniably "information services" outside the reach of Title II. *See infra* Part II.A.

At the same time, the emergence of VoIP underscores the urgent need for the Commission to complete reform of its hopelessly broken intercarrier compensation regime. The Commission should, as soon as possible, move away from the system of wildly varying carrier-to-carrier payments for functionally identical transport and termination and toward a uniform rule of bill-and-keep or other cost-based compensation. As an interim measure, the Commission should exempt all VoIP traffic, whether telecommunications service traffic or information service traffic, from access charges. *See infra* Part II.A. To the extent that the Commission has encouraged industry to negotiate reform, applying access charges to VoIP removes the incumbents' incentives to negotiate access reform. By contrast, the interim measure of exempting all VoIP services from legacy access charges will provide appropriate incentives for further industry negotiation toward comprehensive intercarrier compensation reform pending Commission action.

Regulation to protect consumers' societal interests stands on a different footing. AT&T recognizes that as consumers begin to use VoIP services as a substitute for traditional voice services, the Commission (and state commissions) may be interested in extending regulatory oversight of beneficial social services such as 911 and access to persons with disabilities. At the same time, the Commission must be mindful of the unique and nascent nature of IP-enabled service and the revolutionary benefits that they promise. Thus, the Commission should not simply mandate application of legacy regulation without appropriate transition periods necessary to give the industry sufficient time to design and implement the necessary industry standards and adjustments. *See infra* Part II.B.1-2. Optimal development of VoIP services requires that regulation for social concerns be tailored to the distinct technological characteristics of VoIP services, allow for design of industry standards and recognize that this step supports phasing-in regulation over a reasonable transition period. Mechanical application of legacy rules will stifle the very innovation that may better serve important social policy goals such as 911 and access for the disabled.

On the other hand, it should go without saying that the Commission's universal service system requires substantial overhaul. The universal service fund continues to grow while its contribution base continues to shrink. As AT&T and others have explained, the only viable solution is to replace the current "revenues-based" system with a "numbers-based" system. This proposal would also ensure that VoIP providers and providers of traditional telephony services both contribute to the fund in reasonable and nondiscriminatory manner. The Commission should adopt these reforms as soon as possible. *See infra* Part II.B.3.

Because VoIP is disruptive of existing business and regulatory models, its deployment will raise concerns for state regulatory commissions as well as this Commission, both of which

have legitimate interests in the development of the marketplace and genuine concern for the consumer and business interests to be affected by those developments. Given this, the Commission should preempt those state regulations that would have the effect of negating the federal policies that the Commission establishes in this proceeding, but not here attempt to extinguish all role for legitimate state oversight. In particular, as the Commission held in its *Computer Inquiries* proceedings, it should preempt state "common carrier tariff regulation" of VoIP services, and consider the implications for federal policies of state action with regard to 911/E911 and disability access regulations. AT&T recognizes that the states retain an important role in the transition to an IP-enabled environment, but it is critically important that the states and the Commission work together to avoid a patchwork of conflicting and misguided state and federal requirements that could deny consumers the full benefits of VoIP and other IP-enabled services. *See infra* Part II.C.

Part III explains that the Commission must take targeted steps to ensure that networks remain open to all providers of IP-enabled devices, applications and services and to the consumers that wish to use the devices, applications and services of their choice. IP-enabled services will never achieve their full potential if these services are only provided by the entities that currently control last-mile broadband transmission services. Thus, while economic deregulation of VoIP at the application layer is generally appropriate, the Commission must take care to differentiate between the application layer and the network layer, where concentration remains high and the need for limited regulation to ensure openness and deter market power abuse is more needed than ever. *See Amendment of Section 64.702 of the Commission's Rules and Regulations*, 77 F.C.C.2d 384, ¶ 219 (1980) ("*Computer II*") ("The importance of the control

of local facilities . . . cannot be overstated. As we evolve into more of an information society, the access/bottleneck nature of the telephone local loop will take on greater significance").

Fortunately, only modest conduct regulation, together with vigilant Commission oversight, is necessary to protect nascent VoIP competition – and the Commission has ample authority to adopt such rules. First, the Commission should forbid any network provider or entity providing Internet access to subscribers from impeding access to the Internet content of another applications or service provider, except where such access would threaten the integrity of the network or where required by law. *See infra* Part III.A. Second, the Commission should broadly prohibit any broadband transport provider from requiring subscribers to purchase any IP-enabled service (or, in the case of incumbent LECs, local telephone service) as a condition of obtaining broadband Internet access service. *See infra* Part III.B. These modest conduct regulations are *not* equivalent to "unbundling" of last mile transport networks and will not prevent transport providers from offering their own innovative bundles of services. Indeed, cable companies have already pledged to maintain open access to their networks.[2]

SBC's separate declaratory order petition should be rejected out of hand. In hopes that the Commission would mindlessly deregulate anything that is labeled "IP," SBC asks the Commission to eliminate all existing regulation that would apply to SBC's *basic transmission services and the underlying facilities used to provide those services* to the extent they are based on IP technology. The Act, of course, does not permit the elimination of core regulatory obligations that apply to basic telecommunications services and facilities simply because they employ Internet Protocol ("IP"). Nor, given market conditions and the very real potential for

[2] Communications Daily (Dec. 19, 2003) ("NCTA Pres. Robert Sachs said the cable industry wouldn't stand in the way of Vonage's riding aboard cable modem lines to provide voice-over-Internet protocol (VoIP) service to cable's high-speed Internet customers.")

market power abuse, is there any serious policy justification for the relief SBC seeks (or for SBC's additional request that the Commission eliminate *Computer Inquiries* obligations relating to "IP networks"). *See infra* Part III.C.

ARGUMENT

I. IN AN APPROPRIATE REGULATORY ENVIRONMENT, IP-ENABLED VOICE SERVICES WILL BRING ENORMOUS PUBLIC INTEREST BENEFITS.

The increased deployment of broadband transport has now begun to unleash the true potential of IP-enabled services. AT&T and others have begun offering VoIP services that provide both voice telephone functionality and enhanced functions far more advanced than the current capabilities of traditional wireline POTS. As described in greater detail below, the AT&T CallVantage service includes advanced call forwarding features, "do not disturb" options, and advanced call management features. Existing VoIP services also offer consumers unprecedented mobility. VoIP subscribers can elect to receive calls to the same number at home, office, or any other location where broadband Internet access is available, and can retain their existing phone numbers even after relocating to another location.

These benefits will multiply in the near future. VoIP is quickly becoming a full-blown "computer" application, limited only by the talents of applications developers. VoIP offers the potential for the full integration of voice, data and advanced computer applications. For example, VoIP would allow an architect to discuss drawings with a client and change those drawings simultaneously, in real time, on a single platform. VoIP also promises to revolutionize the ability of persons with disabilities to make and receive telephone calls. And next generation telephones will allow customers to make telephone calls using VoIP where the customers have wireless Internet access and to access cellular service where they do not.

VoIP will make telephone service cheaper as well as better. IP technology allows for more efficient routing of calls than circuit-switching because IP technology does not require a circuit to be held open when there is little or no information being passed through the circuit. IP technology also allows information to flow over the least congested path – even allowing information in a single call to travel over multiple routes.

AT&T's own business plans exemplify these trends. AT&T has been investing heavily to transform its legacy network to a fully IP-based, integrated network. AT&T's goal is to provide both consumers and businesses the ability to communicate in IP format on an end-to-end basis, thereby maximizing the potential of IP technology. AT&T recognizes, however, that the shift to IP will be gradual, and is working actively to ensure that its IP network and IP-based customers can communicate reliably with subscribers that remain connected to the public switched telephone network ("PSTN").

AT&T's Residential VoIP Service. AT&T CallVantage service is an innovative new IP-based offering that enables customers to place phone calls over the Internet, and send to and receive calls from ordinary POTS subscribers. AT&T CallVantage service customers thus can obtain telephone service wherever they have a broadband Internet connection. AT&T CallVantage service customers are not limited to their "geographic" telephone number, but can obtain numbers from across the United States. AT&T CallVantage service is now offered in 33 major markets in nine states, and will be expanded to over 100 major markets by the end of 2004.

Although the technology used in AT&T CallVantage service is advanced, the offering itself is user-friendly. Customers connect an "ordinary" voice-grade telephone to an AT&T-supplied adapter, and connect the adapter to either a cable or DSL modem. The adapter

converts the customer's analog voice signals into IP packets (and *vice-versa*). AT&T CallVantage service allows the customer to make and receive calls from anyone, PSTN-connected and broadband-connected customers alike.

AT&T CallVantage service offers far more than high quality voice calls at very affordable rates. Not only does it include traditional "vertical features" such as voice mail, caller ID, call waiting and call forwarding, the use of next generation IP technology has allowed AT&T to provide consumers with unique "e-features" not available with POTS service. Among those currently included in AT&T's service are the ability to check voice mail from any phone or computer; the option of sending "talking" emails containing voice mail messages; a real-time call log; a "do not disturb" feature (*i.e.*, call blocking for certain time periods); personal conferencing; and the "locate me" feature, which allows calls to be forwarded to up to five additional numbers. These features and functions only scratch the surface of VoIP's potential. AT&T is in the process of researching and developing new features for its VoIP service that will leverage its existing IP platform to bring additional consumer benefits.

AT&T CallVantage service also gives customers unprecedented control over call management. AT&T CallVantage service customers have the ability to access and change their "e-features" over the telephone or via the Internet. Thus, for example, a customer can adjust the "locate me" call forwarding feature to ring to the customer's current location and modify the application of the "do not disturb" feature. These systems can also be used to check voice mail from any location. And, as AT&T adds new e-features to its VoIP service, it will also develop Internet-accessible management tools that give customers' unprecedented ability to control those features as well.

AT&T is also investing heavily to ensure that its VoIP services provide customers with the same high quality as AT&T's wireline local and long distance offerings. And, because of VoIP's flexibility, AT&T is confident that the industry will ultimately be able to offer VoIP customers *better* public safety and disability access than today's circuit-switched technology offers. These improvements, however, require substantial investment and rigorous research and development by more than just VoIP service providers.

AT&T's Enterprise VoIP Offerings. AT&T is also making significant investments in the research and development needed to integrate VoIP services into its existing offerings for large business customers, and to ensure that its network and services enable business customers to take full advantage of the current and anticipated capabilities permitted by an IP-based communications network. Indeed, developing applications and the supporting network capabilities for business services is likely to be an important driver in the future development of VoIP as a whole, as much or more than the development of retail VoIP services that have captured the Commission's and the public's attention. Examples of such enterprise-generated applications include "one number" (or "follow me") services, instant messaging to any device at any location, interactive call centers, readily available multi-point videoconferencing and virtual meeting capabilities, real-time language translation, and desktop multimedia services.

AT&T is currently adding layers of VoIP and other IP applications to its existing and emerging communications networks and services. AT&T's initial focus has been integrating VoIP capabilities into its existing IP-based network offerings. This has involved upgrading and expanding the capabilities of AT&T's managed Internet services, enhanced virtual private network services, managed router services, and private network transport services. Each of these network services uses different IP-based capabilities to enable businesses to communicate among

multiple sites, integrate various data and voice-based services, interconnect their communications capabilities with external networks (including the PSTN), and enable their employees and others to use remote connections to access the capabilities of the business's communications network.

AT&T is also upgrading its business-related local calling services, by replacing traditional Centrex services with an IP-based Centrex offering, and providing IP-based alternatives to other high capacity local switched services used by business customers. Because the deployment of IP-based Centrex and high capacity local services increases the complexity of coordination between the IP and TDM networks, AT&T is devoting considerable resources to ensuring a seamless interconnection between AT&T's IP network and public and private TDM-based networks, between the customer's own IP and TDM network components, and between the customer's IP network components and external networks. Business customers' installation of these IP-based services permits a business and its employees to sever the link between a particular phone (or related CPE) and a particular location. The customer can use the IP-enabled phone device at any point of access to the customer's IP-based network, and has considerable flexibility to use that device for remote access to the customer's network.

Finally, AT&T is also investing to enhance the capability of IP-based inbound and multiple-party calling. IP-based toll-free calling and call center support will enable businesses to integrate calling capabilities with other databases and customer support systems in a manner that will provide entirely new and superior capabilities for businesses to serve and interact with their current and prospective customers. IP-based teleconferencing will also provide the ability to integrate multi-party voice communications with other IP-based information sharing services that are accessible to large numbers of people simultaneously.